

What is claimed is:

1. A composite reinforced thermoplastic sheet comprising a thermoplastic and a fabric reinforcing layer adhered thereto, wherein said thermoplastic sheet uses a polymer blend of ethylene-styrene interpolymer, polyolefin, and plastic rubber and at least one fire retardant.

2. The reinforced thermoplastic sheet according to claim 1, wherein said at least one fire retardant is selected from the group consisting of: antimony trioxide, halogenated fire retardant, and phosphate fire retardant.

3. The reinforced thermoplastic sheet according to claim 1, wherein said
ther blend further comprises a colorant.

4. The reinforced thermoplastic sheet according to claim 1, wherein said
ther blend further comprises an ultraviolet stabilizing package.

5. The reinforced thermoplastic sheet according to claim 1, wherein said olefin of said polymer blend comprises a metallocene polyethylene.

6. The reinforced thermoplastic sheet according to claim 1, wherein said thermoplastic rubber of said polymer blend comprises ethylene-propylene-diene rubber.

7. The reinforced thermoplastic sheet according to claim 1, wherein said
thermoplastic sheet comprises between about 10-50% by wt. ethylene-styrene interpolymer,
between about 20-70% by wt. polyolefin, and between about 10-30% by wt.
thermoplastic rubber.

8. A composite reinforced thermoplastic sheet comprising a thermoplastic sheet and a fabric reinforcing layer adhered thereto, wherein said thermoplastic sheet is a polymer blend comprising about 30% by wt. ethylene rich ethylene-styrene interpolymer,

1 about 30% by wt. metallocene polyethylene, about 20% by wt. ethylene-propylene-diene
2 rubber, about 15% by wt. bromine fire retardant, about 5% by wt. antimony trioxide, and
3 about 1% by wt. ultraviolet stabilizing package.

4 9. The reinforced thermoplastic sheet according to claim 8, wherein said
5 fabric reinforcing layer comprises a polypropylene knit fabric having a basis weight of
6 about 2-6 oz/yd².

7 10. The reinforced thermoplastic sheet according to claim 8, wherein said
8 fabric reinforcing layer comprises a polyester knit fabric having a basis weight of about 2-
9 6 oz/yd².

10 11. The reinforced thermoplastic sheet according to claim 8, wherein said
11 fabric reinforcing layer comprises a polypropylene non-woven fabric having a basis
12 weight of about 2-6 oz/yd².

13 12. The reinforced thermoplastic sheet according to claim 8, wherein said
14 fabric reinforcing layer comprises a polyester non-woven fabric having a basis weight of
15 about 2-6 oz/yd².

16 13. A composite reinforced thermoplastic sheet comprising a thermoplastic
17 sheet and a fabric reinforcing layer adhered thereto, wherein said thermoplastic sheet
18 comprises a polymer blend of ethylene-styrene interpolymer, polyurethane, and
19 thermoplastic rubber and at least one fire retardant.

20 14. The reinforced thermoplastic sheet according to claim 13, wherein said at
21 least one fire retardant is selected from the group consisting of: antimony trioxide,
22 bromine fire retardant, and phosphate fire retardant.

1 15. The reinforced thermoplastic sheet according to claim 13, wherein said
2 polymer blend further comprises a colorant.

3 16. The reinforced thermoplastic sheet according to claim 13, wherein said
4 polymer blend further comprises an ultraviolet stabilizing package.

5 17. The reinforced thermoplastic sheet according to claim 13, wherein said
6 polyurethane of said polymer blend comprises an aliphatic polyurethane.

7 18. The reinforced thermoplastic sheet according to claim 13, wherein said
8 thermoplastic rubber of said polymer blend comprises ethylene-propylene-diene rubber.

9 19. The reinforced thermoplastic sheet according to claim 13, wherein said
10 polymer blend comprises between about 10-50% by wt. ethylene-styrene interpolymer,
11 between about 20-70% by wt. polyurethane, and between about 10-30% by wt.
12 thermoplastic rubber.

13 20. A composite reinforced thermoplastic sheet comprising a thermoplastic
14 sheet and a fabric reinforcing layer adhered thereto, wherein said thermoplastic sheet is a
15 polymer blend comprising about 24% by wt. ethylene rich ethylene-styrene interpolymer,
16 about 24% by wt. styrene rich ethylene-styrene interpolymer, about 28% by wt. aliphatic
17 polyurethane, about 15% by wt. bromine fire retardant, about 5% by wt. antimony
18 trioxide, about 3% by wt. colorant, and about 1% by wt. ultraviolet stabilizing package.

19 21. The reinforced thermoplastic sheet according to claim 20, wherein said
20 fabric reinforcing layer comprises a polypropylene knit fabric having a basis weight of
21 about 2-6 oz/yd².

1 22. The reinforced thermoplastic sheet according to claim 20, wherein said
2 fabric reinforcing layer comprises a polyester knit fabric having a basis weight of about 2-
3 6 oz/yd².

4 23. The reinforced thermoplastic sheet according to claim 20, wherein said
5 fabric reinforcing layer comprises a polypropylene non-woven fabric having a basis
6 weight of about 2-6 oz/yd².

7 24. The reinforced thermoplastic sheet according to claim 20, wherein said
8 fabric reinforcing layer comprises a polyester non-woven fabric having a basis weight of
9 about 2-6 oz/yd².